Dyalog User Meeting 2016 Glasgow

Stormwind Simulator

Tomas Gustafsson

Suzuki B-King + Parking lot

(mod., 200 hp, 300 km/h)

oil spill

= 6 ribs, 10 fractures

1. Current state of the product
2. Goals
3. Multiplayer
4. Show Stormwind action
5. Motion platform
6. Viking challenge

But before that …

APL 50 years?

Respect!

1. Current state of the product

1. Current state of the product

```
The sim:

     694 functions
 651,447 bytes of code
  22,335 lines of code
```

1. Current state of the product

Some hundred customers:

- Rescue departments
- The Finnish Naval Academy
- The Marine
- The Naval Reserve
- The Lifeboat Association
- Boating organisations
- Science centers (coming: Estonia)
- Households (biggest segment)

1. Current state of the product

```
Price: 185 euro (program)
        50 euro (A geo-area)
           euro (B)
           euro (C)
           euro (D)
       ---
       235...385 euro
```
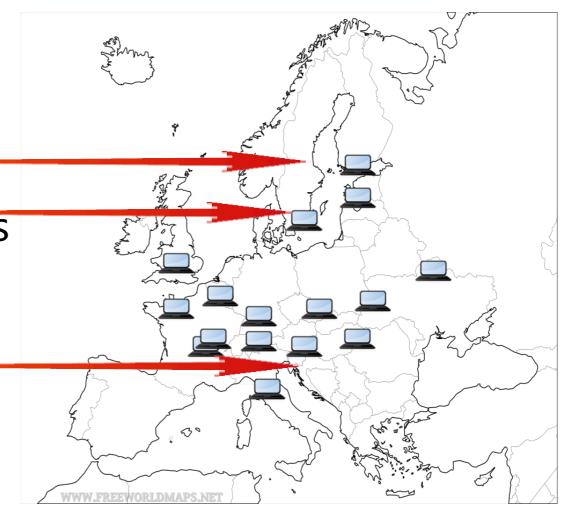
2. Goals

1. Multiplayer (most important)
2. Enlarge and improve the geodata
   (now 30000 square kilometers)
3. Get rid of the USB stick

3. Multiplayer

- 1 root server

- Game servers
  ("listen")

- Clients
  anywhere

3. Multiplayer

Root server: Authorative

- There is 1 only. Is a public IP address.

Game servers:

- Register themselves at rootserver. Manage clients' clouds.

Clients (peers):

- 1. Connect to rootserver, ask for suitable gameserver
- 2. Connect to gameserver, listen for global commands
- Use p2p over UDP for intense data (physics, actions, etc.)

3. Multiplayer (socket communication)

"The **SocketAsyncEventArgs class** is part of a set of enhancements to the System.Net.Sockets.Socket class that provide an alternative asynchronous pattern that can be used by specialized high-performance socket applications. This class was specifically designed for network server applications that require high performance. An application can use the enhanced asynchronous pattern exclusively or only in targeted hot areas (for example, when receiving large amounts of data).

The main feature of these enhancements is the <u>avoidance of the repeated allocation and synchronization of objects during high-volume asynchronous socket I/O</u>. The Begin/End design pattern currently implemented by the System.Net.Sockets.Socket class requires a System.IAsyncResult object be allocated for each asynchronous socket operation.

In the new System.Net.Sockets.Socket class enhancements, asynchronous socket operations are described by reusable SocketAsyncEventArgs objects <u>allocated and maintained by the application</u>."

4. Stormwind action

5. Motion platform

Key persons:

- Leandro Tercette, Sao Paulo, Brazil
  (motion platform engineer)
- Maciek Konopski, Konrad Guowacki, Ireland
  (motion platform owners, builders)
- Ian Hopper, BFF Design Ltd., Glasgow
  (motion platform software vendor)
- TG/Stormwind
  (the simulator program)

CXO Morten @ Dyalog, CEO Paul @ Optima Systems

6. Viking challenge